Will Army Aviation Be Invited to Play in the Next War?

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WHEN THE WAR in Afghanistan began in October 2001, the commander in chief, U.S. Central Command (CINCENT), called for Central Intelligence Agency operatives; Special Operations Forces soldiers; ground elements of the 10th Mountain Division; and the U.S. Marines with air support from the Special Forces, U.S. Navy, U.S. Marine Corps, and U.S. Air Force (USAF). It was not until January 2002 that Army aviation—in the form of the 101st Airborne Division—arrived with aviation units near Kandahar, Afghanistan.

While this order of force commitment seems reasonable, given the special forces' deep operations training and expertise and the Marines' mission to be first over the beach, it is still surprising that the 101st Airborne Division was not in theater until 3 months after the joint operation had begun. After all, from a joint perspective, the 101st maintains a high training state, strategic mobility with relatively light deployment loads, theater mobility with its helicopter support and airborne delivery training, and deep operations capabilities.

In fact, Army aviation as a whole offers much toward fulfilling the operational concepts of Joint Vision 2010, in particular, dominant maneuver, precision engagement, and full-dimension protection. As a maneuver force, attack and lift assets can move heavy-hitting munitions and assault-capable warriors around the battlefield as no other asset can. It can place firepower quickly on distributed targets and project fires at ranges that afford self-protection and protect supported ground forces. Lift helicopters can move ground forces to distant objectives quickly. Attack helicopters can put tremendous firepower precisely on distant targets or dominate a forward battle position—just as a holding force of many troops can do—and they can protect an advancing maneuver force, escort and protect an air assault force on ingress and egress, or perform sentinel duties over a resting brigade.

How can the Army ensure that Army aviation plays a key role in future joint operations? First, Army aviation must make itself more deployable. Second, it must make itself more survivable. And, finally, related to survivability, it must be part of the joint force air component commander's air tasking order.

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Army Aviation Must Make Itself More Deployable

When airlifter allocations are decided for joint operations, the worth of Army aviation assets in combat is weighed against what other military assets can offer in effectiveness and reliability. Thus, the ability to deploy quickly is critical. When asked to deploy, Army attack and support helicopters have self-deployment capabilities for the airframes themselves; however, they have no airborne refueling abilities, as some special forces helicopters have. As a result, attack helicopters must make stops every 750 nautical miles (1,200 for the future Comanche), not enough range for safe overseas deployments.[1] If self-deployment is used, a helicopter battalion depends on a large contingent of support personnel and equipment during en route stops and in the battle area. That support force, in turn, needs C-17s and C-5s to reach a destination. An entire Apache bat-

talion, including all its aircraft, requires airlift of at least 41 C-17s and 25 C-5s. Unfortunately, these airlifters must be shared with the whole Army and Air Force and some Navy and Marine forces. In fact, the Army's 10th Mountain Division was deployed to Uzbekistan in October 2001; however, it was asked to deploy only its light infantry and not its division aviation assets.

Army aviation is clearly working on the problem. For example, significant effort is being made to reduce the 1,335 to 2,000 short tons that each Comanche battalion is projected to need on deployments.[2] This figure should be reduced in planning for the 2008 appearance of a Comanche unit. However, other options are also worthy of consideration. For example, significant weight savings can be achieved by designating lead battalions that bring a full set of equipment and follower battalions that could collocate, bring less equipment and parts, and rely on the lead unit for seldom-used equipment and parts. The Air Force has used this system successfully when deploying fighter squadrons. The Army aviation footprint may also be shrunk by continuing to develop the concept of depending more on continental United States (CONUS)-based resources for repair and parts. This concept would save valuable airlift initially but would need an ironclad promise of continuing airlift availability for backhauling parts and equipment for repair in CONUS and forward transport of replacement equipment and parts. This arrangement would be a high-risk operation unless very firm commitments are made and backup guarantees (more civilian airlift if necessary) are assured.

The U.S. Marine Corps is fortunate to have Navy aircraft carriers and landing helicopter assault ships to transport their helicopters and support systems to a theater of operations. That capability has made Marine aviation a solution to getting boots on the ground and countering enemy ground forces with AH-1W Super Cobra gunships on the day of landing in southern Afghanistan during November 2001. The carrier or assault ship solution for Army aviation to get to war is a possibility when a 96-hour criterion for arrival at a destination is not demanded.

Airborne deployment of ground forces within a theater can give the theater commander great flexibility and an advantage in shaping a battlefield. C-130 aircraft are now used for this job; however, the aircraft are tied to prepared runways or landing strips that may not be located where needed. An advanced transport rotorcraft (ATR), capable of carrying the heaviest future combat vehicle of 20 or more tons, has been advocated as the Army's answer for nonrunway landings in forward areas.[3] The ATR would offer Army aviation a capability comparable to that of the Marines' MV-22 rotorcraft that is smaller and is now struggling to become operational with Marine forces.

For radar-directed threats, the AH-64D Longbows now have available, and the coming Comanche will have available, a fire control radar (FCR) that can locate all types of targets while the attacker may still be undetected. . . . Unfortunately, the Army is planning to buy fewer than one for one FCRs per aircraft, a strategy that will force some attack team members to depend on FCR-equipped members for target assignments.

Finally, to expedite employing AH-64 Apache battalions in battle, deploying battalions with the Air Force's Aerospace Expeditionary Force and its initial deep attack employment under the air component commander has been explored in a recent publication.[4] This concept would reduce the support forces needed to protect and service a stand-alone Army aviation battalion and would benefit from national and theater airborne surveillance and control assets shared with Air Force units.

Army Aviation Must Be More Survivable

Once Army aviation gets to the battle, it has to be able to survive. Survivability factors vary according to the arena one plays in. Attack helicopters push out into hostile countryside that may be armed with various threats, from radar-directed surface-to-air missiles (SAMs) to man-portable air defense systems (MANPADS), all dangerous but in different ways. SAMs are avoided by good intelligence preparation of the battlefield before a mission and by good sensor detection during a mission. Failing avoidance, the threat must be killed by attack helicopter, artillery, or tactical air attack. This situation raises the risk to an attack mission and may divert attack assets from their assigned objective. Regardless of the situation, each must be planned for and appropriate assets assigned to make the original attack mission possible.

Just as the Army is working on deployment issues, it is also working on survivability issues. For radar-directed threats, the AH-64D Longbows now have available, and the coming Comanche will have available, a fire control radar (FCR) that can locate

US Navy

A trio of CH-46 Sea Knights practice deck landings on the USS *Bonhomme Richard* during a large-scale amphibious exercise near Camp Pendleton, California, April 2001. The *Bonhomme Richard* and its sister ships each carry 42 Sea Knights.

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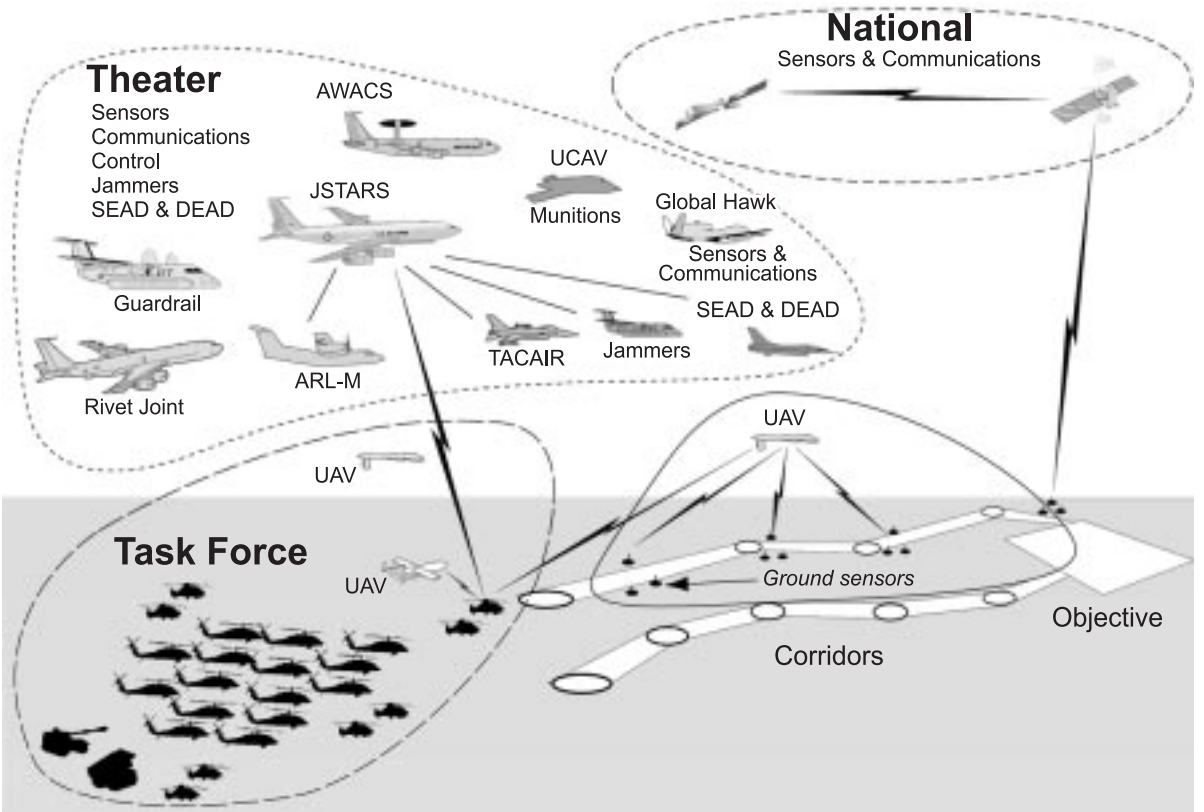
all types of targets while the attacker may still be undetected. The FCR is mounted above the rotors so the aircraft's full profile can remain hidden during FCR use. This feature is essential to survival, essential to target acquisition for a team of attackers, and, thus, essential for all Longbows and Comanches. Unfortunately, the Army is planning to buy fewer than one for one FCRs per aircraft, a strategy that will force some attack team members to depend on FCR-equipped members for target assignments. That places the FCR members in greater jeopardy and reduces the team's efficiency and effectiveness significantly. A better option would be to reduce the number of Comanches but equip them all with FCR.

For MANPADS, the Army has decided to equip the Longbows with an advanced-threat infrared countermeasures system with a warning system and expendable countermeasures dispenser; however, this will not take place until 2004, after which UH-60 Black Hawks and CH-47 Chinooks will be similarly equipped. However, the Comanche will not receive the system; plans still rely on using stealth and no active defense. The Air Force, Navy, and Marine Corps are each developing counters to MANPADS for their fighters. The Department of Defense's initiative to create the joint aircraft survivability to MANPADS is a strong recognition of the MANPADS threat to all aircraft and the principal one to Apache and Comanche operations.[5] Visually directed munitions will be a continuing threat to attack aviation, a threat highlighted in John Bowden's book, *Black Hawk Down*, the story of an air assault in downtown Mogadishu, Somalia, and faced directly in the reluctance to commit Apaches to combat in Kosovo.[6]

Black Hawk Down also describes abysmal command and control (C2) of U.S. Delta and Army forces that conducted a raid in a hostile urban environment. Poor force commitments, unorganized airborne surveillance and control of ground force elements, and confusing and inaccurate radio transmissions all contributed to needless casualties to U.S. troops and an unimaginable loss of civilian life. Bad surveillance and C2 are unacceptable. Army aviation forces deserve the best equipment and train-



National, theater, and task force assets must support assault and deep attack task forces.

ing that can be produced. Loss of C2 in the field is possible if the apparent ease of using satellites for over-the-hill transmissions lures us into relying completely on satellite communications. Unmanned aerial vehicle (UAV) communications relays can be reliable and should be available to aviation and to the whole Army.

Unattended ground sensors (UGS) could offer another means of enhancing Army aviation survivability by providing a continuous monitoring system for any area seeded with sensors.[7] Simulations have shown the value of a system of acoustic sensors in sets of three cueing tripod-mounted, forward-looking infrared that report automatically to an integrated, multisensor situation awareness system. While vehicles would be the primary targets, humans moving with equipment, such as MANPADS, could also be targeted. Helicopters at surveillance locations can place UGS; however, standoff placement by artillery, helicopter missiles, or tactical aircraft could improve Army aviation survivability.

Army Aviation Must Be Part of the JFACCs ATO

Even if the Army does all it can to improve the survivability of Army aviation forces, Army aviation will still need to survive within the joint arena. In that light, Army aviation must have the means to know all threats in its operating area, ways to avoid or destroy those threats in its path, and resources to orchestrate what has to be done. However, Army aviation and the Army must also face the fact that they do not own all the assets needed for the job and must demand the appropriate joint command assets be furnished. A joint solution is needed, and the necessary resources in other commands must be made available when deep operations are planned and conducted. The figure illustrates an air assault in progress.

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the forces with necessary support. The process would begin with the entry of a deep attack flight plan into the JFACC's ATO. This action should automatically generate a request for essential joint support capabilities, including a prearranged set of pretakeoff and execution data; coverage by a predesigned sensor suite and control elements that can provide real-time situation awareness; jamming by EA-6B and EC-130E/J, and dedicated suppression of enemy air defense (SEAD)/destruction of enemy air defense (DEAD) forces and artillery; ground sensor and UAV sensor coverage of critical areas; and onstation USAF tactical aircraft (TACAIR). Joint, coordinated planning and briefings among aircrews of the Air Force assets with TF helicopters and artillerymen should be standard procedure.

There has been reluctance to commit Army aviation assets to a joint ATO. For example, during Operation Allied Force in 1999, an aviation force was deployed to Albania with a large ground force contingent. Army Lieutenant General John W. Hendrix, commander, U.S. Army V Corps and TF Hawk, hesitated to allow Hawk helicopter missions to enter into the NATO ATO for Allied Force operations in Kosovo.

Joint system data should specify the air defense and ground force threat information necessary for conducting threat-avoidance flight route planning with the Aviation Mission Planning System and the necessary coordination and communication arrangements for air traffic control and mission control. As the mission is conducted, the mission helicopters should receive the composite threat data from national sensors and theater sensors such as the Joint Surveillance Target Attack Radar System (JSTARS), Airborne Warning and Control System (AWACS), airborne reconnaissance low-multifunctional (ARL-M), Rivet Joint, UAVs, and ground sensors. The TF should be under positive operational control of an air control element, such as AWACS or JSTARS, that can furnish real-time threat information and warnings, and ensure coordination with jammers, SEAD, and TACAIR. The goals are to ensure a seamless fit between the scout/attack mission and the national, Army, and Air Force situation awareness processes and to focus attack and protection resources on the TF attack mission.

Such joint efforts are not simply pie-in-the-sky prospects—they work. An Apache team operated successfully in a joint environment similar to the one just described at an Air Force-conducted Red Flag exercise on the firing ranges near Nellis Air Force Base, Nevada, in 2000. This exercise included Air Force and Navy fighters and support assets. After successfully navigating through a threat environment, an Apache acquired a target assigned by a joint control element, released a Hellfire missile, killed the target, and returned to home base. Similar successes have occurred in other joint exercises.

Despite this success, there has been reluctance to commit Army aviation assets to a joint ATO. For example, during Operation Allied Force in 1999, an aviation force was deployed to Albania with a large ground force contingent. Army Lieutenant General John W. Hendrix, commander, U.S. Army V Corps and TF Hawk, hesitated to allow Hawk helicopter missions to enter into the NATO ATO for Allied Force operations in Kosovo in March 1999. A final agreement allowed TF Hawk missions on the NATO ATO but only in a time window that prohibited other attack forces from entering the NATO ATO and included fixed-wing air support. It also stipulated that sole fire support would be by multiple-launch rocket systems and Army tactical missile systems located in Albania, both nonprecision fires that would have been unacceptable to NATO in the Kosovo situation.

Later, in a critique of TF Hawk at a NATO Reaction Force Air Staff Conference on JFACC issues, USAF Major General John R. Dallager, assistant chief of staff for operations and logistics, Supreme Headquarters, Europe, indicated: "Clearly the JFACC's authority must not infringe upon operational C2 relationships within and between national or service commands and other functional commands. But to ensure deconfliction of simultaneous missions and to minimize the risk of fratricide, all air operations within the [joint operating arena] must be closely coordinated by the JFACC through the ATO . . . process. This last point may be difficult to swallow for land and maritime commanders, but if air history teaches us anything, it is that air, the truly joint activity, needs to be coordinated centrally if we are to make efficient use of scarce resources and if we are to avoid blue-on-blue."[8]

You have to get there and stay alive to play in the game! Everyone appreciates the firepower, responsiveness, and agility of aviation, but they are set back by what it costs to get to war and survive once there. Army aviation requires too much cube to go to war. It must reduce its footprint by reduc-

ing its deployment weight and cubic footage. Once there, Army aviation must be able to overcome the threats to its assets during combat that deter what should be the Army's widespread advocacy for employing its considerable firepower and airlift capabilities. A corps commander wants to know that an aviation unit tasked to hold a flanking enemy force can live to do the job. A division commander wants to know that he can rely on an air assault aviation force to stay alive when he orders his men to fly into combat.

The good news is that, on this score, operations in Afghanistan during 2001-2002 have boosted helicopter aviation in all services. It is a perfect example of successfully operating in a SAM and MANPADS environment. Initially, ground forces moved in by airdrops from fixed-wing aircraft and moved out by helicopter pickups. Later, a small, but well-armed, contingent of U.S. Marines was successfully inserted by helicopter lift to take and hold an airfield. Subsequent forces have been flown in on C-130 fixed-wing aircraft. The operation occurred in an area where major air defense assets had been eliminated but that was still partially occupied by Taliban opposition forces known for their prowess in shooting down Soviet helicopters in the 1980s with hand-held Stingers and Russian rocket-propelled grenades.

One of the most positive events in Afghanistan was UAV success. Predator UAVs' surveillance apparently furnished a window on much of the Taliban's movements and destinations, enough to target vehicles, buildings, caves, and masses of soldiers. The inauguration of unmanned combat aerial vehicles (UCAVs) — Predators that fired Hellfire missiles at targets — is a welcomed advancement of UAV capabilities and an indicator of what Army aviation may expect to employ in the future. With aviation's success in the manned/unmanned teaming testing, in which Apache aircrews have controlled a UAV and its sensors while flying a simulated combat mission, aviation should incorporate UAVs and UCAVs in attack battalions.[9] Further, because of the high exposure of fixed-wing Predators, developing and acquiring rotor-wing UAVs that would better meld into the attack helicopter nap-of-the-earth mode of operations should be a high priority.[10] UAV surveillance should provide a significant increase in survivability to aviation operations.

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Army aviation is commencing a difficult period of transformation along with the whole Army. It has the opportunity to shape flying units to meet a variety of adversaries it may face at home and in many parts of the world. It is imperative that improved deployability and survivability are paramount factors in this shaping. Without them, invitations from joint commanders to join the team will be slow coming. ***MR***

NOTES

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4. Colonel Brad Mason, U.S. Army, *U.S. Army Apache Helicopters and U.S. Air Force Expeditionary Forces: Implications for Future Military Operations*, Maxwell Air Force Base (AFB), Florida, June 2001.
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8. For more on Task Force Hawk and Operation Allied Force, see Benjamin S. Lambeth, "Task Force Hawk," *NATO's Air War for Kosovo: A Strategic and Operational Assessment*, MR-1365-AF (Santa Monica, CA: RAND Corporation, 2001), 147-57.
9. Steven MacWillie, Aviation Battle Lab, *Helicopter/UAV Integrated Operations*, Briefing, Fort Rucker, Alabama, 6 December 2000.
10. For example, an A160 unmanned rotorcraft with a hingeless rigid in-plane rotor. See Arthur Morrish, deputy director, Tactical Technologies Office, Defense Advanced Research Projects Agency, Hummingbird A160 Briefing, October 2001.

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